DOCUMENT RESUME

ED 130 302 CS 203 015

TITLE	Options in Education, Transcript for March 1, 1976: Art in the Schools, Learning to Speak Properly, Music, Project Zero, Art as Core, and Math Can Be Fun.
INSTITUTION	George Washington Univ., Washington, D.C. Inst. for Educational Leadership.; National Public Radio, Washington, D.C.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	76
NOTE	22p.
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS	Art Education; *Education; Elementary Secondary Education; *Interviews; Mathematics; Music; *News Reporting; Poetry; *Radio; Scripts; Speech Instruction; Standard Spoken Usage; Teaching Methods
IDENTIFIERS	Options in Education

ABSTRACT

"Options in Education" is a radio news program which focuses on issues and developments in education. This transcript contains discussions of the arts in education--poetry, music, and art; learning to speak properly; the separation of speech and writing; music education; teaching children about art; and a pilot television program which teaches math skills. Participants in the program include John Merrow and Wendy Blair, moderators; Connie Goldman; Stanley Kiesel; Victor Drilea; Conrad Stawski; Winnifred Horner; Leo T. Burley; Howard Gardner; Ellsworth Erikson; and Jesus Torvino. (JM)

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ED130302

INSTITUTE FOR EDUCATIONAL LEADERSHIP
THE GEORGE WASHINGTON UNIVERSITY

National Public Radio

TRANSCRIPT FOR PROGRAM SCHEDULED FOR BROADCAST

THE WEEK OF MARCH 1, 1976

Options in Education

2025 M Street, N.W. Washington, D.C. 20036
202-785-6462

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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CS 203 015

OPTIONS IN EDUCATION is an electronic weekly magazine devoted to coverage of news, features, policy & people in the field of education. The program is available for broadcast to the 181 member stations of National Public Radio.

Executive Producer is John Merrow, Producer is Midge Hart, Co-Host is Wendy Blair, Reporter is David Ensor.

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OPTIONS IN EDUCATION is a co-production of National Public Radio and the Institute for Educational Leadership of the George Washington University.

Principal support is provided by a grant from the National Institute of Education. Additional funds are provided by the Carnegie Corporation, the Ford Foundation, the U.S. Office of Education, the Robert Sterling Clark Foundation and the Corporation for Public Broadcasting.

(Check your local listings or the NPR member station in your area for time and date of broadcast.)

(MUSIC)

BLAIR: I'm Wendy Blair with NPR's OPTIONS IN EDUCATION.

(MUSIC)

OPTIONS IN EDUCATION is a news magazine about all the issues and developments in education - from the ABC's of primary education to the alphabet soup of government programs. If you've ever been to school, we have something that will interest you.

On this edition of OPTIONS IN EDUCATION -- Words & Music:

(MUSIC)

Music & Music:

(MUSIC - "Chopsticks")

And - Mathematics & Music:

(MUSIC)

MERROW: This is John Merrow. Einstein said that "to stimulate creativity, one must develop the childlike inclination for play and the childlike desire for recognition." And we're turning over most of this program to people who share his insight into the dynamics of creativity - to kids and grownups who like to play, create, and to help others to do the same.

BLAIR: Too often the arts are the step-children of education, an afterthought or luxury. Right now, in money-conscious school districts across the country, there are thousands of art & music teachers, who know from past experience that their programs will be among the first to be dropped or cut back drastically. But we want you to meet some people who consider the arts an absolute necessity.

KIESEL: Appreciation with a capital "A" like Culture with a capital "C" - it's, you know -- I try to steer away from things like that.

MERROW: Stanley Kiesel, poet-in-residence in the Minneapolis Public School System. You'll hear him at work in this segment of Reporter Connie Goldman's award-winning documentary on "Arts in the Schools". Connie prepared the report at member-station KSJN in St. Paul, Minnesota.

KIESEL: Now, here's a stretching poem. Here's a stretching poem. "With my hands on my head, what is this here? This is my hat-racker, teacher, my dear. Hat-racker, hat-racker, doodley-doo, that's what we sing in school." That's what the poet likes to do. He likes to make up different names for things.

GOLDMAN: How do you expand the whole idea of what poetry might be? And make them comfortable enough - allow them to be comfortable enough so that they can feel that they can play with words or sounds or ideas?

KIESEL: Well, the word "comfortable" is important. I have to feel comfortable, and they have to get pleasure. One aspect is to read to them things that I feel won't be too difficult. So, I try to find poems that are written by poets who are alive today that will really appeal to the kids on all kinds of levels. Also, I try to read poems

written by children because kids really get excited about it when they find out that kids ~ their age - write poetry. I'm going to a school today and I may read some poems by kids. If I see 8-year olds, I'll read poems by 8-year olds in another school, and the kids are flabbergasted! They're just amazed that things like this are going on.

They think a poem is something that's written & printed in a book and it's by an adult. It's got this kind of "sacred, holier-than-thou" kinds of things. So, I always say to kids, "Can kids be poets?" And kids usually say, "No." And I say, "Sure they can. Kids write good poems." "Do kids' poems get published in books?" And they say, "Noooo." And I say, "Sure. Here's a book and here's an 8-year old poet, and here's his poem." And, then, they're just flabbergasted, and they really dig that. They love it.

IN-CLASSROOM DEMONSTRATION BY KIESEL:

"All right, before we start anything, let's just do a poem that I found that I kind of like. Now, this is a rhyming poem, but you know all poems don't have to rhyme. It's kind of interesting, though, the things that poets like to write about. Is it possible to write a poem about a crumb?"

KIDS: "Yeeaaah!"

KIESEL: "Is it possible to write about the dirt on somebody's shoe? Sure. Sure. You can write a poem about anything. Is it possible to write about a poem about food & drink?

KIDS: "Yeeahhh!"

KIESEL: "Oh, sure. Here's a couple of 'em I found by a poet named David McCord that I like. I'll say a line, and you copy me, okay? Just for fun. 'Cup, what's up?'

KIDS: 'Cup, what's up?'

KIESEL: 'Why, it's cocoa scum.'

KIDS: 'Why, it's cocoa scum.'

KIESEL: 'And who likes that?'

KIDS: 'And who likes that?'

KIESEL: 'Some.'

KIDS: 'Some."

GOLDMAN: Are the kids often apprehensive when you walk into a room and they know a poet is coming? Do you have to fight the battle right off the beginning?

KIESEL: It depends. I don't anymore because this is my third year and I've been in many, many years, and even if you don't hit all the classes, kids talk about you. And I'll go into a room and the kids who may have never seen me before will say, "Oh, there's that funny man." Or, "There's that poet." Or, "Hi, Mr. Poet," or, "Mr. Poemer." They call me "Mr. Poemer," that sort of thing. Generally, the reaction is that I don't have to fight a battle, but there are certain

schools in certain areas where I have to fight a very fast battle the very first five minutes, and if I don't win that battle, then I've lost - and I might as well walk out. But I make sure that I win. I've got to, you know?

IN-CLASSROOM DEMONSTRATION BY KIESEL:

KIESEL: "Okay, we're going to write a poem together, and I'll tell you what it's going to be. I'm going to write the name of the poem on the board, and then you have to . . . ."

CHILD: "Write all the months!"

KIESEL: "Well, all the months. You know all the months. That's too easy. I'll tell you what. We're going to use our imagination. You know what that is. Where's your imagination?"

CHILD: "In your head."

KIESEL: "In your head. Yeah, you've got a boney imagination. In your brain - right. Now, here's what the title's going to be. Oh, boy, I like the way she's watching. She's really listening. Here's the name of the poem. . . . Well, I'm going to help you. 'Baby-Talk Poem'. Babies do talk. I want somebody to tell me something that their baby says. Somebody who raises their hand - because then I can hear them better. Denise, what does your baby say? 'Da-da?' What does 'Da-da' mean?"

CHILD: "It's 'Dad'."

KIESEL: "It may mean 'Father', right? That's a real word. That's a baby-talk word. Let's put that in our poem. Okay. 'Da-da' - okay, I want another baby-talk word."

CHILD: "Mama."

KIESEL: "'Goo-goo' - now when a baby says, 'Goo-goo', what does he mean? Goo-goo, goo-goo. What does baby want? Goo-goo."

CHILD: "He wants something to eat or drink."

KIESEL: "He wants something to eat or drink. All right, let's put 'goo-goo' up here. Do you remember the name of our poem?"

CHILDREN: "'Baby-Talk Poem' . . . Da-da, da-da, goo-goo . . ."

KIESEL: "Right. That's just part of our poem. Good."

GOLDMAN: You must think it's possible that there's something creative with words that can come out of every child you deal with.

KIESEL: Oh, no doubt about it. In fact, the kids who are most creative are sometimes the kids who can't read or write, can't spell. Their handwriting is terrible, but they have great imaginations. Sure, we don't know how many of these kids are going to write poetry when they grow up. Very few of them may become serious poets, and who cares? And what does it matter. The important thing is -- Maybe, some of these kids' attitudes will have changed. By the time they become young adults, they will take a poet seriously - rather than laugh or

feel silly or think he's somebody who has nothing to do with their lives. Maybe, because poets come into the classroom these kids will realize that poetry is still something being done today. And being done by young people as well as older people. So, I think that's one of the important things about my job in the schools.

CHILD: I wonder why those big guys can do better than children.

KIESEL: That's not really true. You mean - big poets?

CHILD: Yeah, like men and women.

KIESEL: Not always. You know there are a lot of kids-poems . . .

CHILD: Kids can't make up any rhyming words that make a poem.

KIESEL: Sure they can. I've read rhyming poems to you guys written by kids. I have some written by some kids that are great. Do you know that there are a lot of poems written by kids that are published in books?

CHILD: Yeah, I've read some, but not with me -- I can't make good rhymes.

KIESEL: Oh, but you know you're only seven, and you've said you've only written four poems. Maybe your eighth poem or your tenth poem will be . . .

CHILD: Only two of 'em are rhyming ones and were real good.

KIESEL: But you don't have to write a rhyming poem. You could write a poem that doesn't rhyme. It can be just as good. Do you know that Robert Frost - the man I told you is on the stamp? - that he wrote a lot of poems that didn't rhyme. He wrote a lot of poems that did rhyme. And some of his poems that didn't rhyme are just as good as the rhyming ones. Guess how many poems Robert Frost wrote?

CHILD: Sixty.

KIESEL: I bet he did write sixty. I think he's written hundreds of poems.

Why do some kids turn out to be poets when they grow older, and others don't? I wonder why.

MERROW: Stanley Kisel, poet-in-residence in the Minneapolis Public Schools speaking with Connie Goldman. There's more to come.

("The Rain in Spain. . .")

BLAIR: Professor Higgins isn't alone in the conviction that proper diction - rhyming or not - is essential. But methods vary.

(Heavy Breathing . . . "See, this is the point . . . .")

The point will become clearer. The student is my colleague, John Merrow. The teacher is Victor Drilea, a voice instructor in Sarasota, Florida. Mr. Drilea has been listening to OPTIONS IN EDUCATION for nearly two years now, and he's taken a personal interest in improving our speech. He sent John a long-playing instruction record so John could practice at home. Well, John did some homework and then called the professor to check his progress.

MERROW: In your letter to me, of course, you were really polite when you suggested I needed voice training, and that we all needed voice training, but you certainly were insistent. I guess you've been teaching voice for many years now. Haven't you?

DRILEA: Well, let me tell you more. I'm close to 80 years of age. And I was very lucky to have a very, very distinguished father. He was a teacher in the public schools and kind of a landlord. And we didn't have television or radio at that time, and after our evening meal we'd gather around the piano - we'd have a violin and some flutes - we'd make music, and we'd alternate on another evening with just pure reading - either prose or poetry. And the father was insistent that, first of all, you must have a good organ to read. A good voice. Here, we are a little crippled. We cannot talk unless we have a microphone. It is sad to me. I was born in a different environment. Although I admire America in many ways, I still feel America is quite backward in many ways.

Education in speaking is quite backwards. I will give you a bad illustration -- "Hi, whatdayahsay, huh" -- and all sorts of things like that. No, that's not the way to do it.

RECORD: We take the breath preferably through the nose. We hold it for a few seconds, and then let it go gradually imitating the whistle . . . .

MERROW: Victor, I listened to your record and I've been practicing at home, and there are a couple of things I'd like to ask you. For example, on the record you have us imitating a tea kettle whistle. Why would you want your students imitating a tea kettle whistle?

DRILEA: There I want to show you - it doesn't really have to be a whistle - but I want to show that it's a continuous use of breath. I don't believe in breath control. I believe in breath command. That is, we have the ability to keep the breath for longer intervals of time. And I give them simple illustrations -- it's like a sigh . . .

RECORD: First exercise: We take a breath. We hold it for a few seconds. Then, we let it go as in a sigh.

MERROW: I'm nervous talking to my teacher.

DRILEA: Yeah. Then I would want you to do it forwards . . . . That's better.

MERROW: I've sort of been your student for over a year now.

DRILEA: You're doing fine. I'll tell you what you ought to do.

MERROW: That's what I wanted to ask you. How am I doing?

DRILEA: For instance, sometimes try to do something like Demosthenes used to do. Have a pebble in your mouth and try to talk with it. Try to force the tongue to do more work. The tongue, by the way, should be a little forward. Yes!

MERROW: Yes.

DRILEA: No, you're still sort of retracting. Yes. Say - Yes. Move the body - move forward - and say - Yes.

MERROW: Yes.

DRILEA: That's better.

MERROW: Yes!

DRILEA: That's better.

MERROW: Thank you, Victor. Victor Drilea. That was my voice teacher, who's everybody's voice teacher. Thank you very much.

DRILEA: You're welcome, and I hope it does some good. If you find out what is the reaction of the audience, and if they want something, I'll give them more.

MERROW: Thank you, bye bye.

DRILEA: Bye-bye.

BLAIR: Well, John, I hope I don't have to do the rest of the program with pebbles in my mouth, but I'll give it a try. Here.

How does this sound?

MERROW: By Jove, I think she's got it.

("Why Can't the English Teach Their Children How to Speak?")

MERROW: Schools and teachers put a strong emphasis on standard English and on the accepted rules of grammar, punctuation, rhetoric and diction. That makes sense in writing, of course, but maybe standard English speech ain't all that important. We don't have Cockney English in this country, but there are a lot of regional dialects and speech patterns -- The Southern drawl, Brooklynese, and so forth. When schools and teachers label all of these as sub-standard and inferior, perhaps they're making it even harder to teach kids to write in standard English.

In this next report, you'll hear from two teachers who try to separate speaking from writing.

STAWSKI: Senator Erwin rolled out these marvelous Carolina phrases. Actually in the speaking - we loved to listen to him. This was rich and it was meaningful. It was colorful. He was the hit of the show easily. But I'm sure when Senator Erwin writes his legal briefs, they're in a language quite different from what he uses in speaking.

BLAIR: That's Conrad Stawski, Chairman of the Language Arts Department in the Columbia, Missouri Public Schools. Dr. Winnifred Horner, an English Professor at the University of Missouri, shares Stawski's idea that writing ought to be taught as a separate skill.

STAWSKI: I've heard it put - and I think very admirably - that what we're trying to do really is teach sophisticated use of language, in the best sense of what that means. In other words, to teach any student that he has all of these possibilities - that is, in one situation, in one context, he talks this way. In another context, this. And in another context, this way. In this context, he writes in this way. And I think this kind of sophistication - to allow a speaker to move from one dialect to another with the understanding, of course, that written dialect is a minor dialect in this country. It's a minor dialect and it is the important dialect of academia, of the publishing industry and so forth.

This, by the way, is an expensive thing to do, isn't it? You see, it's simpler - it's more economic to say, "Okay, kid, shut up and do it this way." "Talk it this way and, then, you'll be able to write it that way." Right? It's more efficient, and that's dictatorial, and that's authoritative.

HORNER: A lot of our problems in writing are almost emotional problems. I hate to put it that way, but they are emotional problems on the part of the student. We find over and over again that, first of all, he hates writing, and second, he is scared to death of the writing course.

STAWSKI: Surprisingly, because out in the corridor the job is to turn them off verbally, vocally. All of us spew out language in unending streams. Win is absolutely right when she says you ask a kid to pick up a pen and pencil and it terrifies him, and he's lost.

HORNER: Somehow or another, we've really turned the students off about that. I think part of our problem is that they come to our classes with their own dialects, and the dialects that their parents speak, their friends speak, all their community speaks - the people that they admire and love - and we start in and say, "That's wrong. That's incorrect. Don't say it that way." And if we could, as Conrad was suggesting, give students some pride in their spoken language and then say, "All right, this is the way you transfer that spoken language to this standard written."

BLAIR: Winnifred Horner and Conrad Stawski. They spoke with Roger Gafke of member station KBIA in Columbia, Missouri.

(MUSIC: Karl Orf)

BURLEY: I base my whole project on this basic Chinese proverb. The child who hears something forgets it. The child who sees it remembers it. But the child who does - knows.

BLAIR: Leo T. Burley, a music teacher in the Grand Rapids, Minnesota Public Schools. He tells Reporter Connie Goldman how he puts that proverb into practice.

BURLEY: I'm not teaching music. I don't want to stand up there and tell them that Bach had 21 children, and four of them happened also to be people who wrote music, and all this jazz, which doesn't make any difference. Who cares if he was born in Bonn, Germany, or East Overshoe, France? They want to be making music. So if you get the kids involved through the basic elements of music, which are melody, rhythm, harmony, form, and tone color - so that they can see and hear and participate music through these areas, then they feel that they're accomplishing something. They're playing the ukelele. They're playing an instrument that makes something that can be done with singing. They're playing a recorder. They're dinging with the electronic synthesizers. They're making up synthetic sounds around the room. They're breaking rhythms. They're grabbing a rhythm instrument. They're feeling the rhythm, and trying to listen for the accent; differentiating the time signature. And then theory comes into focus.

> BURLEY: "Now, we're going to demonstrate this today in little eurhythmics. Okay, here we go. Now, please listen for the beat. Spread it out as we get going. Use the entire room by getting everybody spread out at least by six feet difference - because if you're doing a body movement to the next step, you're going to have

to have room. right? All right, here we go - from the beginning.

(Music) -- Anticipate . . .

STUDENT: This is an experimental class. No one has ever done it before.

STUDENT: We do things with rhythm, melody, play different instruments.

STUDENT: Well, we've used balloons, and when he comes on the accent we have to push the balloon up in the air. We've played the electronic synthesizer, the recorder and the ukelele.

GOLDMAN: Does it change the way you listen to music, when you're out with your friends, or at home, or when you hear the radio, or when you go to a concert?

STUDENT: Yeah. You listen to the way the conductor conducts the band, and the accents - when they come down on the accents.

STUDENT: You listen more for the kind of music - the speed of it, just the way they play it.

STUDENT: In most of our music classes, we learn about Beethoven and everybody. You just learn the same things over and over. I think this is more fun. I learned a lot more this year than last year in my music class.

(Music) . . . Okay, everybody, sit down.

BURLEY: The carry-over from the 8th grade class will make some bearing upon what they're going to do in the future with music. Are they going to say, "Boy, I like that. I think I'm going to see if I can buy a guitar and take a few lessons. It's kind of fun to play a ukelele, go down and buy one." Or the recorder. I've had kids in my class who, after we're done with the recorder, say, "Mr. Burley, where can I get this instrument? Where can I buy it?" And I try to figure out where they're going to get the instruments. They want to buy the books we play out of. So, now we've opened a new door. The kid actually feels he's accomplished something.

I had one student last year who was thrown out of every curriculum class. He was sitting in the office for everything except music class. This one boy who was kicked out of every class made up his own song. He could not wait for me to play it on the piano. This kid took this very heavy, about 18-pound, bell set home on the bus. This kid had finally found something that was really turning him on. He was at the door, waiting to get in for his class. And he was late for the next class because he didn't want to leave. I had to write passes for him all the time. So, this is the kind of thing that I think we're trying to do. We're trying to get to the student.

(Music)

Listen to this rhythm. Ready . . clap. (Clapping sounds) How many beats in the measure?

KIDS: Four.

BURLEY: How did you know there were four beats in the measure? Okay, I'm going to direct that, and I want you to beat that same rhythm with your hands, and I'll conduct it. . . . accent the first beat. . . . Good, okay.

STUDENT: Well, I think now that I have a better outlook on it I think I can do it myself now. And I have a guitar at home, and I took some lessons, and I didn't get anything out of the lessons. Now, I really take it seriously.

BURLEY: (Music) . . . Now, would you say that sounds to the human ear good or bad? Do you like that sound?

STUDENT: Good.

BURLEY: You like it? How many don't like it? Everybody likes that. You're all dissonant music lovers. Now, dissonance means sounds that do not sound good. Now, that is a minor 2nd, which is not supposed to sound too good together, but why does it sound good? Because we knew the song. What is the song?

STUDENT: Chopsticks.

BURLEY: Who would ever do "Chopsticks" like this?

Melody and playing activities - involving playing anything: autoharps, synthesizers, recorder, horner melodica, melody bells, piano, electronic gear that we have here called the musictronic, which is a keyboard system with six keyboards going at the same time. History is important, but don't spend hours upon hours and days upon days telling them that the Renaissance came before the Baroque and then comes the Rococo, and then comes the Classical - and long-hair music happened to fit in that area, and why did they call it long-hair music, and all these examples, because they get bogged down.

And I also have a lesson on synthetic sounds which is involved with anything "cheap" - using the wall, the shade, the doors, the feet, the arms - creating sounds. The electronic synthesizer, if you're fortunate enough to have the money to buy anything like this.

Again, in closing, we can say there is something in music for everyone.

BLAIR: Music teacher Leo T. Burley of Grand Rapids, Minnesota.

("Seventy-Six Trombones")

MERROW: There's something in Art for everyone, too, but you have to know what to look for. It's hard enough for adults, but harder for children who get confused by the adults. That's the view of Howard Gardner, who has thought a great deal about the situation. He works at Harvard University on an arts program called "Project Zero", a rather whimsical name which reflects a pessimistic appraisal of the state of art education. He's trying to devise ways of developing keen ears, eyes, minds and hands in students everywhere, as he explains to NPR Report Susan Stamberg.

GARDNER: The first thing is the young child doesn't recognize the realm of art as being anything different. He relates to the world and there are certain things in the world he likes, and certain things in the world he doesn't like. And this is a wonderful, democratic attitude to have. But, soon enough, somebody says, "Oh,

there's those special things. They're museums. They're special." And this begins to create problems because it's sort of like a sacred code -- the child is not privy to the code, and he doesn't really know how to relate to it.

So, we've been doing some very simple and common-sense studies to see what happens when children are confronted with art objects, and we find that some very strange things go on. For one thing, we find that they're very ignorant about where those art objects come from. They often think that art objects are just there - like a rock or a tree, or that they're made by a machine. They don't realize that people are behind art objects. And that's a kind of fundamental misconception because it means that when you show them something in a museum, they think it as being essentially undifferent from a stone.

STAMBERG: Well, why don't they realize it? From the minute they go to school and hold a paint brush, they make art.

GARDNER: That's the crucial question. They don't make the connection. Because the art objects in the museum are presented in such a rarified atmosphere. It's as if you went up to a planet and you were shown some artifacts, you wouldn't have a clue as to which ones had been made by the people and which ones were part of the moon.

Now, you might say it doesn't matter and, ultimately, I would agree. The exciting thing is to get an aesthetic experience from anything, be it a seashell or a painting. But, if you don't understand the sort of basic rules of art objects, you will misunderstand lots of things that happen. If you get taken to a museum on a tour, as many kids are, and the docent says to you, "Well, this was Titian, and he was a student." And if you don't realize that that thing on the wall he's talking about was made by a person, you're going to be absolutely out in left field.

STAMBERG: In what way is he out in left field? Does it mean that you then are shut off from the possibility of also becoming a Titian? Or are you not acknowledging your own human kind in some way by not being told that it was another person very much like you, but a little bit taller?

GARDNER: You should know that. That's exactly the point, but unless the person who is doing the talking realizes that most of the kids don't know that, he will gloss over it, and the child won't know what he's talking about. That's what it is -- he won't know what Titian is. We know it's a name of a person, but it sounds like the end of an English word.

STAMBERG: Yes, toilet paper.

(LAUGHTER)

GARDNER: Like mortician (LAUGHTER). And that's the idea of talking above kids or assuming that because you like Beethoven, anybody who listens to Beethoven is going to like it. That just isn't true. When Beethoven was initially played, they threw cabbages. And the first time any child hears Beethoven, he can't make any sense of it, no more than you or I can make sense of a Raga if we haven't had some experience in listening to it.

STAMBERG: Is a child's art experience any different from his life experience?

GARDNER: Well, initially, there's no difference. Initially, children respond to things who don't respond, and the fact that society happens to label it as an art object is completely irrelevant. Until the age of 5, I'd say that's true.

But I think that two things happen after children go to school. One is that they realize that certain things are labeled by society as art and that evokes very funny emotions. Sometimes it's treated as frivolity, amusement. It's in the paper along with fairs and things like that. Some of it is treated as a mystical religious experience, and the children pick that up and they have an awe which is unwarranted. And if someone tells them it's art, even if they think it's junky, they ignore their own reactions. So, one thing that happens is that children become influenced by the way society labels something as art with a capital A.

The other thing is that kids become aware that people can do things and that when people do things, they express things about themselves. Kids become fascinated by baseball players and the stance of different players and what that means about how well he can hit and how he's showing the pitcher that he's tough because he huddles near the plate and things like that. And so, kids become aware then that you can express yourself and other people can express themselves through this funny thing called words or pictures. And that has great excitement, but it is also kind of a threat because you can reveal yourself by what you do and by what other people do. And so at that point the art experience does become separated in some way from life experience.

STAMBERG: Okay, what's the clue for the art teachers of America and for the parents and for anybody who is concerned about how children come to approach art. What's to be done?

GARDNER: Well, there are a lot of things that have to be done, and we don't know all of them. The first thing is to realize that you can't lump all kids together, and you can't even lump all four-year olds together. Kids are different -- they bring different knowledge and interest to bear, and the first thing to do is to know your audience, to know where the child is at, what's interesting to him, what's important to him, and to start there. You can't start from a totally different point of view.

STAMBERG: And that's different at four from what it is at seven from what it is at fourteen?

GARDNER: All of our studies underline that very, very strongly.

STAMBERG: Be specific. What is it at four?

GARDNER: At four, the child isn't interested at looking at things for the most part, in general. He wants to act with them. He wants to take them apart. He wants to build them. He wants to throw them. It's a mistake in most cases to take him to a museum, because you're putting him in an essentially frustrating environment. You're saying, "Put your hands behind your back and look." That's fine for a fourteen year old. It's a cruel experience for most four year olds.

Give them materials to work with. Let them explore them. Let them build with those materials. By the time the child is seven or eight, he's interested in things, but he's very interested in how realistic they are. He's interested in paintings, because he wants to see if he can make a painting that looks just like the real thing.

That's an interesting thing to take him to a museum and to show him there are twenty ways of drawing Christ. And they may differ in realism, but they also differ in other ways.

STAMBERG: Do you stay away from the de Koonings on the wall with a kid of that age?

GARDNER: I wouldn't say that as a general rule, but you've got to be sensitive to the fact that many kids are going to laugh at that and say, "That looks like a monkey's dropping." Because many adults will say the same thing, too. The way I would do that if I were an art teacher is - I would spend some time working with the kids in class beforehand, taking, let's say, lines and shapes - maybe in a kind of collage medium, and say, "How many ways can you arrange these different lines? Can you make the lines look firey, can you make them look violent, can you make them look passionate?" Make the children realize something they know at some level, and that's just moving with abstract forms. You can make very exciting figures. Then, take the kids to the museum and show them some abstract expressionism. Their minds will be blown. But if you take them in unprepared, their reactions are going to ridicule it because they've seen other people do that. They've seen the mad scientist on television being made fun of, and they'll think that's what they're supposed to do.

STAMBERG: Okay, now the kid who's 14-years old. What do you do?

GARDNER: Okay, the 14-year old is very, very tricky. For one thing, 14-year olds are very much concerned with themselves. They're very much wrapped up in themselves.

STAMBERG: More than the 4-year old?

GARDNER: Well, they're very much concerned with their own identity; who they are. They're very concerned about not being ridiculed.

STAMBERG: Not being too different . . .

GARDNER: That's right. They're very conformist. And, as far as artistic output is concerned, the 14-year old is very critical. And if what he does - he doesn't like, if he thinks it isn't as good as it could be, he despairs, and he's likely to discontinue involvement in the arts altogether. And there are two lessons there: The first one is -- Don't wait until the kid's 14 before involving him with art objects. It's probably too late. The other one is: Develop some skills in the middle years of childhood, and develop some ability to take criticism - so you aren't all of a sudden at the age of 14 hit in the head with a critical judgment.

On the other hand, 14-year olds are quite ready to be taken into museums and to symphony halls and to be connoisseurs, but again, you have to realize the visual world of the 14-year old is often a comic book, and the auditory world is often the rock & roll sound, and you can't expect the child to go overnight to some other so-called "higher" art forms.

STAMBERG: Well, if you define an Andy Warhol as a higher art form, you could take them to the museum to look at Warhol.

GARDNER: Sure. I think you want to take them there, but, again, it's very easy to have a ridiculing notion about a Warhol. In fact, I probably think Warhol would be a bad piece of work to show them. (But I'm giving my own views about Warhol now. I think Warhol is

very important as a figure in Art History, who makes us re-examine our environment and the things we take for granted.) But it's probably a very bad thing for kids today because they don't have the kind of distance which I think would enable them to appreciate the Warhol style.

I would much rather have them involved, say, in Eskimo society and then show them some Eskimo artifacts because it's easier to have a distance from that, and you can be tremendously excited by Eskimo work. Save the Warhol for the end of Fine Arts I.

STAMBERG: Getting back to some of the results of your research. Not only did you find that the kids were very often unaware that that painting hanging on the wall was actually done by somebody, but once you tried to get them to do sorting-exercises, to do grouping in some way, and say what's similar with this painting and this painting and this painting, you stumbled across some rather interesting information -- misperceptions.

GARDNER: One of the things which most adults take for granted is that you can have two arts works that represent the same thing, and yet they can be very different because, as we say, the style is different. When Roth paints a Christ that looks totally different than when someone in the Middle Ages, like Giotto, paints Christ.

We found that for children who were below the age of adolescence, the subject matter was so overwhelming in the paintings that they thought that was the only way to think about the paintings. And, so, they would always put together paintings that were by the same artist, and irrespective of how diverse the styles were. And we found by simply saying, "Well, put together those that were done by the same artist, or group the paintings by style", that was meaningless. It was saying, like, group the paintings by the same exhibit. And so we asked a question, which was an interesting research question -- Is it that they don't see the styles, or that they see them, but they don't know what kind of sense to make out of them? And what we found was that these kids can learn to see styles without much trouble, but we have such a functional relationship to representations in our world. When we read stories to kids, we say that's a cup. And they learn to think that all the painting is is a cup. And they're not realizing that there are many different ways to paint a cup.

And that's what I mean when I say - Arts are a form of knowledge. It's knowing to be able to look at those cups and to see the differences, and to be excited by the differences, and to realize that it isn't one way that is right, and one way that is wrong - because the arts aren't cumulative like the sciences. It isn't that we get closer and closer to the correct answer. It's just that every age sees a cup or Christ in a different way.

So, we found that kids are very open to these notions once we were introducing them to them, but it's amazing that they could live in a reasonably literate pocket of the world for ten years without anyone ever having indicated to them that there is something in a painting other than what is being represented by the painter.

MERROW: Howard Gardner of an art education program in Boston called "Project Zero", talking with Susan Stamberg.

TEACHER: So, it's a totally integrated type of thing, and we don't have anymore -- "This is art. This is social studies, and this is reading" -- but together.

BLAIR: In other words, art shouldn't be separated in the curriculum. In Moundsview, Minnesota, art is the CORE, or at least that's the name of the art program there. Connie Goldman talks with Program Coordinator Ellsworth Erikson and teachers and students in Moundsview.

ERIKSON: I think we could be much more effective with the "now", the contemporary program or philosophy -- "What is education?" -- by being educators first, and protectors of our particular disciplines second. We kind of lose perspective that we basically are educators, and I think of myself as an educator first, and an art teacher second.

GOLDMAN: What about art always being considered a specific skill instead of as a part of general education?

ERIKSON: Well, I feel that we are often called specialists. In fact, throughout the country in the elementary schools, art, music and physical education staff are called specialists - art specialists. I'm getting so tired of that word because it's so limiting, so confining and defining. I think we really are generalists. If we do what we purport to do, and what we think we should be doing, and all that which I've expressed earlier, we've got to be generalists. And the specialists probably are other disciplines. Maybe some of the disciplines that traditionally are considered "core". Maybe they're the specialties, and we're closer to the "human condition" and what it is to be human.

TEACHER: We wanted to combine a dance/art type thing. So, we combined it - using modern dance and trying to incorporate art and music. And we started out with these girls behind a white screen to give it a 2-D effect, a painting type effect, and we put three spotlights back there, and it created black to shades of gray, and it was -- It looked like about thirty people with the various shadows. And that represented a kind of painting aspect.

And then we had two girls perform in these elasticized tubes that represented a kind of sculptural effect, and they would move, and grow, and extend in claps with the music, and then another art teacher and myself did a completely modern dance to a classical ballet piece. So, we kind of combined dance, music and art all in one session. That was basically the background.

GOLDMAN: And had you ever done any dancing before?

STUDENT: It was my first.

GOLDMAN: How about you?

STUDENT: First.

GOLDMAN: What do you think about working in something like that? What were your feelings when you were doing it? Do you remember?

STUDENT: You get kind of scared in front of all of them people doing it.

GOLDMAN: What do you think you learned out of that experience?

STUDENT: How to do different dances.

STUDENT: The lights show on you while you're dancing.

STUDENT: How to dance and move . . .

GOLDMAN: What was the biggest thing that you learned?

STUDENT: That dancing can be fun.

GOLDMAN: Did you ever think of that kind of a thing as being art? Or, maybe it isn't. What do you think?

STUDENT: I don't know. I always thought of art as painting, or cutting paper and gluing it together, something like that.

GOLDMAN: Well, what do you think about it now? Let's think about that production that you did with the lights and the dance and the music? Might that be a kind of art, do you think?

STUDENT: Yeah, kind of.

GOLDMAN: What do you think.

STUDENT: Yeah, it would be.

GOLDMAN: Maybe, it isn't. It doesn't matter if you say "no". Maybe it just isn't. What do you think?

ERIKSON: I have a strong feeling that our public school systems have not been dealing with, and assisting children to communicate visually. That is, working with personal symbols. I have some seniors, not too long ago, in Humanities, and these are youngsters who not typically are in the art program, but as a senior this might be their first introduction to art. And I asked them to express an emotion because we are dealing with emotions - and a theme called "love & hate" at the time - and I asked them to do this in clay. And they just sat there dumbfounded. They just had no idea where to start. And they're seniors. So, they're young adults.

And, then, finally, we started discussing the power of direction and line, shape, form, and color. And what this can say emotionally. And they kind of caught on, and it was interesting. Some of them became a little upset with their prior education; that they had been taught to read and communicate by writing and speaking, but not visually at all. And we live in a visual world, and we're so influenced, I think, by color, by shapes, textures, and by the emotional influence of these daily - and I'm not too sure if we're inspired or encouraged to deal with it.

STUDENT: Well, they have three different areas - English, Music & Art - and each week you go to a different area and work. And, so, you compose music, read stories, work in English, and then do art work and sculptures. And it's kind of for people who haven't had a chance to get into the art system or music. It gives everybody a chance to work in something that they haven't had a chance at before.

GOLDMAN: Do you think of all of that as art?

STUDENT: Yeah, I think so.

GOLDMAN: Explain that to me.

STUDENT: Well, I think of art as just kind of something - you have an idea in your mind and you interpret it into something else that other people can relate to. It creates a mood - the music - and anything that creates a mood or just looks nice or sounds nice, I think that would be an art.

GOLDMAN: One doesn't usually think of this coming out of an art class, a yearbook. And it's an interesting philosophy that art has been expanded to include almost any activity that has creative energy attached to it, right?

STUDENT: Right. And I think, too, we added a lot of creative energy, personal creative energy, to each book. Each book has four pages that the kids did their own kind of art work, and, naturally, that was worked in with the art classes. Plus, every grade did their own thing in writing and in their pictures. They decided what they wanted for lay-outs. Everybody had a finger in everything, which was the good part about it, I think.

GOLDMAN: Did you work on that?

STUDENT: Mmm-mm. Some art work I did.

GOLDMAN: This is a different kind, two different kinds. What are they?

STUDENT: Painting and some stick-um things.

GOLDMAN: Stick-um things?

STUDENT: Mmm-mm.

GOLDMAN: You can just stick pieces of colored paper on other pieces of paper and it comes out a picture, huh?

STUDENT: Mmm-mm.

GOLDMAN: What did your mother, father, brothers and sisters say about this book?

STUDENT: They said it was terrific.

BLAIR: Children in a Moundsview, Minnesota school describing their art work to Connie Goldman.

MERROW: There's a lot of creativity in children, and in their schools, and teachers. Every afternoon, millions of kids carry their art work home to show mom and dad, and we're curious to know just what you moms and dads do with that art work. Does it pile up until you secretly throw it away? Or do you try to hang it up on the walls?

BLAIR: Do tell us what you do with your children's finger-paintings, drawings, clay hand-prints and so forth, and we'll read some of your letters on the air.

("Estimating Your Chickens")

BLAIR: Estimation is just one of the math skills taught on a new television program that hopes to do for math what the Electric Company is doing for reading - that is, make it fun. The Infinity Factory is now in its pilot stages in Boston, New York and Los Angeles, and should premiereon public television in the Fall. It's aimed at an 8 to 11-year

old audience. Reporter David Freudberg of member station WGBH in Boston prepared this report.

TORVINO: I guess our concern, as producers of this series, is to identify what, in fact, the children do and do not understand, what, in fact, they really laugh about, and what things they find to be real duds.

BLAIR: The producer of The Infinity Factory is Jesus Torvino.

TORVINO: We're trying to develop story situations that blend both a cultural or ethnic situation or point of view with a mathematical objective. In fact, we have two sets of objectives for our series: We have mathematical objectives, which have to do with the topics of mathematics that we want the children to learn - and these have to do with estimation, with graphing, mapping, scaling, measurement, and with the decimal numbering system. These are key elements that we feel are found in the practical experience of everybody's life, and the children must know them. And this is what we're trying to teach.

On the other hand, we also have a set of cultural objectives, and these have to do with such things as male/female roles, humanistic perspectives that we want the children to understand, with a series of ethnic (in terms of Black and Hispanic) perspectives, letting children know who they are. And in this way we're trying to integrate both cultural and cognitive skills into a product that we hope will successfully blend the two.

Now, to the degree that we've done this, I think we're successful. I think what we're trying to do is find the right combination, the right mixture of both ethnic, cultural dimension as well as mathematics. The way in which we're doing this is we have two dramatic mini-series within our half-hour show. One of them, "Scoop's Place", takes place in a storefront, in a candy store, in a Black neighborhood. And the characters are Black, and Scoop's in the family that runs it, and they're Black, and the people that come into the store, that exchange information, that use math in their daily life for a Black.

This, for Black inner-city children, will be, I think, an area with which they can identify; that will show in their everyday lives how math is made relevant.

Similarly, in East Los Angeles, we have "Panaderia", which is Spanish for a bakery, and this bakery is run by a Hispanic or Chicano family - and the Hispanic family runs the bakery, and here, too, people come into the bakery. They bring with them the life of the community, and through an exploration of this life and its cultural & ethnic dimensions, we also explore the use of math in everyday language.

("Panaderia" Demonstration on Estimation)

BLAIR: Reporter Freudberg also spoke with some of The Infinity Factory workers.

FREUDBERG: Everybody give me your name, please.

WORKERS: Danny - Mike - Nancy - Jeannie.

WORKER: Well, we're mostly just to be ourselves, and the math part just fills in and makes it fun for us.

WORKER: Learning your lines is the most difficult part because, like, they throw ten scripts on you in two days of rehearsal, and nine days of shootin', and you know, that's really a block - because you have nothing to do but to learn your lines, and do this, and you really have to psych yourself off from the whole world, I think.

FREUDBERG: Do you think education happens better when it's on television?

WORKER: Yeah, it makes it fun - especially, this show really makes math fun. It really does, and that's the aim. That's what I like about it.

WORKER: . . . It's not on TV yet. That's the only one I have. I can't wait till it comes on.

BLAIR: Amy Liffer teaches at the Harvard Graduate School of Education.

LIFFER: All the newer shows, starting from "Sesame Street" on, really do stress entertainment. And I think that's good. I don't think that's bad. But, in doing so, you sometimes sacrifice time that you could give to an educational goal.

Now, I think it's reasonable, particularly, if your audience is going to be at home, and you have to catch them and keep them at home. So, I think it packs more of a punch than you would get if you did either one of them separately.

FREUDBERG: Do the kids suffer from this impersonal, mass-mediaized instruction?

LIFFER: I don't think there's any indication that they suffer at all. Now, they might if that was the only way they were educated. But for all kids, it's only a small part of their education. And it looks as though they enjoy it, and learn something from it, and are pleased with the learning, and with themselves for learning.

FREUDBERG: Is there a cultural bias to these programs?

LIFFER: Well, in general, in television there's a strong cultural bias. Now, many of the more recent shows that try to combine entertainment and education have worked very hard to represent many of the minority groups as well as the majority group in the United States. And, in that sense, there's a bias towards trying to represent a variety of ethnic groups and cultures. But, overall, even in most of the instructional material I've seen, the bias is toward white, middle-class, sort of suburban culture, and you don't very often find the range of life styles and peoples that you do really find in our country.

FREUDBERG: Is there any kind of acting that you're inclined to do because of the minority audience that's expected for this program?

CHILD: Well, not really. They just say - Be yourself. I mean, I'm a minority - so, it's not really that difficult to act like a minority.

BLAIR: David Freudberg talking with crew & cast of "The Infinity Factory", a television program now in its pilot stages to be broadcast in the Fall. The program is a production of the Educational Development Center in Newton, Massachusetts.

(Music)

MERROW: If you'd like a transcript of this program, send 25¢ to National Public Radio/Education, Washington, D. C. 20036. Cassettes are available for $4.00. Please indicate that you want Program #18.

Before I give that address again, we'd like to thank Reporter Connie Goldman and member station KSJN in St. Paul, Minnesota for her series on "Arts in the Schools", which won an Ohio State Journalism Award this year.

Other NPR stations contributing to this program were KBIA in Columbia Missouri, and WGBH in Boston, Massachusetts.

Our address again -- National Public Radio/Education, Washington, D. C. 20036.

BLAIR: This program is produced by Midge Hart. The Executive Producer of OPTIONS IN EDUCATION is John Merrow. I'm Wendy Blair.

CHILD: OPTIONS IN EDUCATION is a co-production of the Institute for Educational Leadership at the George Washington University and National Public Radio.

BLAIR: Principal support for the program is provided by the National Institute of Education. Additional funds to NPR are provided by the Corporation for Public Broadcasting, and to IEL by the Carnegie Corporation, the U. S. Office of Education, and the Robert Sterling Clark Foundation.

CHILD: This is NPR - National Public Radio.

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